REMARKS / DISCUSSION OF ISSUES

Claims 1, 4-8, 10-11, 13-14, 17, and 21-28 are pending in the application.

The Office action objects to the title; the title is correspondingly replaced herein.

The Office action rejects claims 1, 4-8, 10-11, 13-14, 17, and 21-28 under 35 U.S.C. 112, second paragraph. The applicants respectfully traverse this rejection.

The Office action asserts that claims 10 and 26, upon which claims 11, 13, 21-15, and 27-28 depend, includes the limitation "the electrode... includes a profile that is characteristic of having been ink-jet printed in molten form" (Office action, page 3, lines 1-2). This is incorrect. Claims 10 and 26 do not contain this limitation, and thus the rejection of claims 10-11, 13, and 21-26 under 35 U.S.C. 112, second paragraph based on this assertion is unfounded.

The Office action asserts that the inclusion of the limitation "the electrode... includes a profile that is characteristic of having been ink-jet printed in molten form" in claims 1 and 6, upon which claims 4-5, 7-8, 14, and 17 depend, is not clear and does not provide structural detail. The applicants respectfully disagree with this assertion.

As specified in claims 1 and claim 6, the electrode comprises a metal or a metal alloy having a melting point of 250°C or less that includes a profile that is characteristic of having been ink-jet printed in a molten form, and is at least 5 μm thick.

As is well known in the art, as contrast to contact printing, ink-jet printing includes the deposition of drops of material to a surface. As is also well known in the art, molten metal dissipates heat rapidly, and the laws of physics and thermodynamics will force a drop of molten metal to assume a spherical shape. As a matter of interest, tall "Shot Towers" from the 18th century still exist as historic buildings in many cities. In these towers, drops of molten metal were dropped from upper levels of the tower; by the time these drops reached the bottom of the tower, they were formed into spherical balls which were used as shot balls for pistols and

rifles. Larger towers could produce shot for cannons, as well. If a drop of molten metal lands on a surface before it cools as a sphere, the drop will be deformed, yet due to the rapid dissipation of heat from metal, the resultant shape will be that of a solidified drop resting on the surface.

The Office action asserts that "a concave, convex, or planar ink jet electrode is possible". The applicants respectfully disagree that, based on the characteristics of molten metal drops, a concave or planar electrode would be considered to have a "characteristic of having been ink-jet printed in molten form" to one of ordinary skill in the art. One of ordinary skill in the art would recognize that a secondary process would be required to deform an electrode that is ink-jet printed with molten metal from its characteristic shape to form either a concave shape or a planar shape.

Because the profile of a metal or metal alloy having a melting point of 250°C that is ink-jet printed in molten form is definitive to one of ordinary skill in the art, the applicants respectfully maintain that the rejection of claims 1, 4-8, 14, and 17 under 35 U.S.C. 112, second paragraph is unfounded.

In view of the foregoing, the applicants respectfully request that the Examiner withdraw the rejections of record, allow all the pending claims, and find the application to be in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Robert M. McDermott, Attorney
Registration Number 41,508
patents@lawyer.com
804-493-0707

Please direct all correspondence to:
Corporate Counsel
U.S. PHILIPS CORPORATION
P.O. Box 3001
Briarcliff Manor, NY 10510-8001